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EXAMINER

MYERS, CARLA J

ART UNIT	PAPER NUMBER
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1634

DATE MAILED: 10/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/808,659

Applicant(s)

ZHANG ET AL.

Examiner

Carla Myers

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 June 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 23-44 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 23-44 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date. _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This action is in response to the amendment filed June 22, 2004. Claims 1-22 have been canceled. Claims 23-41 are newly added. All rejections/objections not reiterated herein are hereby withdrawn. This action is made final.

THE FOLLOWING IS A NEW GROUND OF REJECTION NECESSITATED BY
APPLICANTS AMENDMENTS TO THE CLAIMS:

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 23-41 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 23-41 are indefinite and vague because the claims do not recite the basic steps of the claimed method in a positive, active fashion (see Ex parte Erlich 3 USPQ2d, 1011 (BPAI 1986). The claims should recite active, process steps such as "forming a nucleic acid target sequence" and "forming a 3' terminal labeled primer." Further, the claims do not provide a clear association between each of the recited steps. For example, the claims recite a step of forming an primer extension mixture, but do not clarify whether the mixture contains the 3' terminal labeled primer. Further, the claims include a step of separating extended products with labels from extended products without labels. The claims do not clarify how extension products are formed without labels. Are both 3' terminal labeled primers and unlabeled primers utilized in the

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extension reaction? Are the 3' terminal labeled primers formed during the extension reaction? Are some of the dNTPs labeled and other's unlabeled to generate both labeled and unlabeled extension products? Clarification of the claims is required.

Claims 23-41 are indefinite because the claims do not provide a clear nexus between the preamble of the claim and the final process step. The claims are drawn to methods for detecting a nucleic acid. However, the final step is one for separating extension products. The claims do not clarify how the step of separating extension products results in the detection of a nucleic acid.

Claims 23-41 are indefinite over the recitation of "said 3' terminal labeled primer." This phrase lacks proper antecedent basis since the claims do not previously refer back to a 3' terminal labeled primer.

Claims 23-41 are indefinite over the recitation of "subjection of said primer extension" because it is not clear as to what is intended to be meant by this phrase. The claims previously refer to a primer extension mixture and to primer extension conditions. It is unclear as to what is intended to be meant by subjection of a mixture with a polymerase or subjection of primer extension conditions with a polymerase. The claims should be amended to clarify that a primer extension reaction is performed using a polymerase.

Claims 23-41 are indefinite over the recitation of "said extended products" because this phrase lacks proper antecedent basis. Additionally, the phrases "the extended products without labels" and "the un-extended primers" lack proper antecedent basis.

Claim 28 is indefinite over the recitation of "is specifically the dNMP." This phrase lacks proper antecedent basis because the claim does not previously refer to a dNMP.

Claim 39 is indefinite over the recitation of "the label is kept into the extended products" because it is not clear as to what is meant by keeping a label in a product. It is unclear as to whether this means, for example, that the label is incorporated into the product or if a reaction is performed that removes some labels, but retains other labels.

Claim 40 is indefinite and vague over the recitation of "subjected to digestion" because it is not clear as to whether the claim is intended to include an additional step of digesting the primer/target sequence complex and whether a digestion step is only performed when a primer is utilized that has a mismatch with the target sequence. The claim does not clarify how the digestion step is carried out and doesn't clarify the relationship between digestion and extension of digested primers.

Claim 41 is indefinite and unclear. The claim does not clarify what is intended to be meant by the primer "is kept intact." The claim does not include any type of step which would prevent a primer from remaining intact and thereby it is unclear as to how this recitation is intended to further limit the claim. Further, it is unclear as to what is intended to be meant by "no polynucleotide products yielded from the mismatched complex." The claim does not previously refer to a polynucleotide or to a mismatched complex. It is also unclear as to how the recitation of "products yielded" is intended to further limit the claim since the claim does not include a step in which a product could be "yielded."

Claim Rejections - 35 USC § 102

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3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 23-25, 29, 30, 33-38 are rejected under 35 U.S.C. 102(b) as being anticipated by Pastinen.

Pastinen discloses a method for detecting a target nucleic acid which comprises the steps of forming a nucleic acid target sequence, forming a primer having a 3' label, forming a primer extension reaction, performing a step of primer extension using a polymerase, and separating the primer extension products from the unextended primers and unlabeled extension products (see, e.g., pages 611-613). In particular, Pastinen teaches immobilization of primers onto a solid support, hybridization of a target nucleic acid to the primers, extension of the primers with a labeled ddNTP to form 3' labeled primers, performing wash steps to remove unlabeled and unextended products, and detection of labels as indicative of the presence of the target nucleic acid.

With respect to claims 24 and 25, the reference teaches that the target nucleic acid may be single-stranded DNA or RNA (see pages 608 and 611).

With respect to claim 29, the reference teaches using radioactively labeled ddNTPs to generate a 3' terminally labeled primer (see page 613).

With respect to claim 30, the reference teaches that the ddNTPs may be labeled with a fluorescent moiety to generate a 3' terminally labeled primer (see page 610).

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With respect to claim 33, the use of single stranded RNA for mini-sequencing is considered to be a method of mono-directional primer extension. With respect to claim 34, the use of PCR products for min-sequencing is considered to be a method for bi-directional primer extension.

With respect to claim 35, the method of Pastinen is considered to be a solution based primer extension because the primer sets are added into the liquid phase for primer extension (see page 611).

With respect to claim 36, the method of Pastinen (page 610-613) is a semi-solid phase cascade primer extension because the sample to be analyzed is used as a template for liquid phase primer extension initially and the template for solid phase primer extension is mainly the product from the liquid phase primer extension. Note that this definition of 'semi-solid phase primer extension' is consistent with Applicants definition of this methodology.

With respect to claim 37, the method of Pastinen encompasses a solid-phase primer extension method since the mini-sequencing method fo Pastinen requires the extension of immobilized primers.

With respect to claim 38, the method of Pastinen includes post-hybridization primer extension since following hybridization of the primer to the target nucleic acid, the primer is extended.

RESPONSE TO ARGUMENTS:

In the response filed June 22, 2004, Applicants traversed the 102(b) rejection over Pastinen by stating that "Apparently, the instant invention, which discloses a method for

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genetic analysis using **3' terminal unlabeled primers**, should not be the same invention as the Pastinen which discloses a specific tool for DNA analysis and diagnostics on oligonucleotide arrays." Applicants assert that the 3' terminal labeled primer is a primer that has a 3'-OH moiety ready for polymerization. However, the present claims do not require that the primer contains a 3'-OH moiety ready for polymerization. The present claims recite only a requirement for a 3'-terminally labeled primer – the primer is not defined in terms of the fact that it contains a 3'-OH group. Further, the present claims recite only the steps of formation of a 3'-labeled primer, formation of a primer extension mixture, and "subjection" of primer extension with polymerases. The claims do not require performing an additional primer extension step by adding nucleotides to a 3'-OH group of a 3'-terminally labeled primer. Accordingly, Applicants arguments are not convincing because Applicants are arguing limitations that are not recited in the claims.

Applicants assert that Pastinen does not teach how to perform the method steps. However, as set forth on pages 610 and 611-612, Pastinen provides extensive details of how to perform the primer extension/ mini-sequencing method.

Applicants further state that "For the 3' terminal labeled primer extension, the presence of 3'-OH is mandatory." However, as discussed above, the claims do not require primer extension of the 3' terminally labeled primer and the claims do not require the use of a primer having a 3'-OH group.

THE FOLLOWING ARE NEW GROUNDS OF REJECTION NECESSITATED BY
APPLICANTS AMENDMENTS TO THE CLAIMS:

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Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 27-28, 31-32 and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pastinen in view of Dale (U.S. Patent No. 5,856,092).

The teachings of Pastinen are presented above.

With respect to claims 27 and 28, Pastinen does not teach labeling the primer by addition of a labeled dNTP having a free 3'-OH group. However, Dale teaches methods for detecting a nucleic acid target sequence wherein the method comprises hybridizing a primer to a target nucleic acid immediately adjacent to a variable nucleotide, extending the primer by adding a labeled nucleotide complementary to the variable nucleotide to thereby form a 3'-labeled primer (see, for example, columns 6-7 and

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Figures 2A and 2B). Dale teaches that the labeled nucleotide may be a dATP, dCTP, dGTP, dTTP or dUTP and that labeled dNTPs may be used in place of ddNTPs (column 14). Use of the labeled dNTPs in the primer extension method results in the formation of a 3'-terminally labeled primer, having a free 3'-OH group, wherein the OH moiety "is specifically the dNMP."

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the method of Pastinen so as to have used labeled dNTPs in place of labeled ddNTPs because Dale teaches that either dNTPs or ddNTPs can be used in the primer extension reaction and Dale teaches that the use of labeled dNTPs allows for the effective detection of specific target nucleic acid sequences.

With respect to claims 31 and 32, Pastinen does not teach using antigenic or enzymatic labels. However, Dale teaches that dNTPs having antigenic and enzyme labels can be incorporated in the 3'-terminal end of primers (columns 15-16). Specifically, Dale teaches using an antigen or enzyme to label the primer, in place of a isotopic label, so that the label can be used as a separation element that binds to an immobilizable affinity element, and allows for the separation of extended primers from non-extended primers (column 15-16). Additionally, Dale teaches that primers can incorporate antigens and enzymes that can be directly detected (column 15).

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the method of Pastinen so as to have labeled the primers with an antigenic or enzyme label because such labels would have

provided an equally effective means for directly detecting the presence of extended primers or could be used to facilitate the separation of extended primers from non-extended primers.

With respect to claim 42, Pastinen does not teach separating the extended products by electrophoresis. However, Dale (column 21) teaches that, in an alternative embodiment, primer extension reactions may be performed in solution and that extended primers and unextended primers can be separated by electrophoresis and assayed to detect the presence of labeled moieties as indicative of the presence of specific target nucleic acids.

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the method of Pastinen so as to have detected the extended labeled primers by electrophoresis because Dale teaches that this is an equally effective and convenient means for detecting the primer extension products and thereby detecting the presence of a specific target nucleic acid. Further, the resulting method would not require the use of additional reagents, such as immobilizable labels or the use of a solid support.

5. Claims 26, 39, 41 and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pastinen in view of Goelet et al (U.S. Patent No. 6,004,744) and Leggett (U. S. Patent No. 6,395,475).

The teachings of Pastinen are presented above. With respect to claims 39 and 41, Pastinen does not teach extending a 3'-labeled primer by incorporating a labeled nucleotide if the primer and target sequence do not contain a mismatch.

Goelet teaches methods for detecting a specific target nucleic acid and methods for detecting nucleotide variation in a target nucleic acid. In the methods of Goelet, both the primer and the nucleotides may be labeled. Goelet (column 16) states that "the combination of four differently labeled terminators and many primers and templates tagged with different groups permits the typing of many different nucleic acid sequences simultaneously." Goelet (column 15) teaches that primers may be tagged at the 5' terminus with a moiety that permits separation of the primer from other reaction components. The reference (e.g., column 15) also teaches that labels may be incorporated at any positions which do not effect the primer extension reaction. Additionally, Goelet (e.g., column 11) teaches that "If the template-dependent enzyme has no exonuclease activity, the 3' end of the primer must be base paired for the labeling by the terminator to occur." Accordingly, in the method of Goelet using a template-dependent polymerase lacking exonuclease activity, the primer is extended only if the primer and target nucleic acid are fully complementary; if a mismatch is present, primer extension does not occur.

Additionally, Leggett teaches that PCR, and thereby primer extension reactions, may be performed using 3'-terminally labeled primers (see column 2).

In view of the teachings of Goelet and Leggett, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the method of Pastinen so as to have labeled the primers at the 3' end with a detectable moiety and to have extended the 3'-labeled primers with a labeled nucleotide if the primer and target sequence did not contain a mismatch wherein the method specifically

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utilized a template-dependent polymerase lacking exonuclease activity. One would have been motivated to have modified the method of Pastinen in this manner in order to have generated a method in which different labels could be used with different primers in order to have allowed for the simultaneous analysis of multiple mutations and polymorphisms in a target nucleic acid sequence.

With respect to claim 26, Pastinen teaches detecting the presence of specific RNA and DNA targets, but does not specifically teach detecting cDNA targets.

However, Goelet (e.g., column 13) teaches methods for detecting the presence of cDNA targets and the detection of nucleotide variation in cDNA targets. Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have applied the method of Pastinen to the analysis of cDNA targets in order to provide an alternate source of nucleic acids that could be used for detection of nucleic acids. In particular, the use of cDNA in place of mRNA would have allowed for a method in which the target nucleic acid was of higher stability and would provided an effective means for indirectly quantifying expression.

With respect to claim 42, Pastinen does not teach separating the extended products by electrophoresis. However, Goelet (see Example 1 and particularly column 18) teaches that, in an alternative embodiment, primer extension reactions may be performed in solution and that extended primers and unextended primers can be separated by electrophoresis and assayed to detect the presence of labeled moieties as indicative of the presence of specific target nucleic acids. Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to

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have modified the method of Pastinen so as to have detected the extended labeled primers by electrophoresis because Goelet teaches that this is an equally effective and convenient means for detecting primer extension products that differ in length and thereby detecting the presence of a specific target nucleic acid. Further, the resulting method would not require the use of additional reagents, such as immobilizable labels or the use of a solid support.

6. Claims 40 and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pastinen in view of Goelet and Leggett and further in view of Boyce-Jacino et al (U.S. Patent No. 6,294,336)

The teachings of Pastinen, Goelet and Leggett are presented above. The combined references do not specifically teach detecting 3'-terminally labeled primer extension products in a method in which, if a mismatch is present between the primer and the target nucleic acid, the primer is digested with the polymerase, and then extended using unlabeled nucleotides.

Goelet does, however, teach that when the template-dependent enzyme lacks exonuclease activity, primer extension does not occur from primer/target nucleic acid complexes that contain a mismatch. Goelet (column 14) also teaches that the primer extension reaction can be performed using a DNA polymerase with or without an associated 3' to 5' exonuclease function.

Additionally, Boyce-Jacino teaches alternative methods for detecting the presence of nucleotide variation wherein the methods comprise hybridizing a primer to a target nucleic acid, extending the primer by adding a 3'-labeled nucleotide if no

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mismatch is present between the primer and target nucleic acid, and detecting the presence of the extended primer. The reference (columns 19 and 20), also teaches methods for extending primers in which there is a mismatch between the primer and the target nucleic acid. In this embodiment, a polymerase having 3' to 5' exonuclease activity is used in the primer extension reaction. If a mismatch is present, the polymerase digests the primer to remove the mismatched base and then extends the primer to incorporate the correct nucleotide.

In view of the teachings of Boyce-Jacino, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have further modified the method of Pastinen so as to have used a polymerase having 3' to 5' exonuclease activity in the primer extension method in order to have provided an effective means for detecting the presence of a variant nucleotide at a position in the target nucleic acid that corresponds to the 3' position of the primer. The ordinary artisan would have recognized that in embodiments in which the primer is labeled at the 3' terminus, unlabeled nucleotides could be used for the extension reaction since loss of the label would be indicative of the presence of a variant nucleotide. Use of a 3'-labeled primer, a polymerase having 3' to 5' exonuclease activity and unlabeled nucleotides in the primer extension method of Pastinen would have provided an equally effective and rapid means for detecting the presence of a specific target nucleic acid.

7. Claims 26 and 44 is are rejected under 35 U.S.C. 103(a) as being unpatentable over Pastinen in view of Monforte (U.S. Patent No 6,635,452).

The teachings of Pastinen are presented above.

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With respect to claim 44, Pastinen does not teach treating the primer extension product with S1 nuclease.

However, Monforte teaches a method for detecting the presence of a target nucleic acid. Monforte teaches that products of primer extension reactions may be treated with a nuclease, such as S1 nuclease, in order to release a 3' label (see, e.g., columns 24 and 45). Monforte teaches methods in which a primer is hybridized to a target nucleic acid sequence immediately adjacent to a variable nucleotide, the primer is extended to incorporate a labeled nucleotide to thereby form a 3'-labeled primer, unincorporated primer and labeled nucleotides are removed, and the 3'-terminally labeled primer is treated with an agent, such as S1 nuclease, to release the labeled nucleotide (see, e.g., columns 35-36).

In view of the teachings of Monforte, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the method of Pastinen so as to have included a step of S1 nuclease digestion to release the 3'-labeled moiety in order to have provided an equally effective and rapid means for detecting primer extension products and thereby detecting the presence of specific nucleic acid sequences.

With respect to claim 26, Pastinen teaches detecting the presence of RNA and DNA targets, but does not specifically teach detecting cDNA targets.

However, Monforte (e.g., column 35) teaches methods for detecting the presence of cDNA targets and the detection of nucleotide variation in cDNA targets.

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It would have been obvious to one of ordinary skill in the art at the time the invention was made to have applied the method of Pastinen to the analysis of cDNA targets in order to provide an alternate source of nucleic acids that could be used for detection of nucleic acids. In particular, the use of cDNA in place of mRNA would have allowed for a method in which the target nucleic acid was of higher stability and would provided an effective means for indirectly quantifying expression.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Carla Myers whose telephone number is (571) 272-0747. The examiner can normally be reached on Monday-Thursday from 6:30 AM-5:00 PM. A message may be left on the examiner's voice mail service. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Benzion, can be reached on (571)-272-0782.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to (571) 272-0547.

Patent applicants with problems or questions regarding electronic images that can be viewed in the Patent Application Information Retrieval system (PAIR) can now contact the USPTO's Patent Electronic Business Center (Patent EBC) for assistance. Representatives are available to answer your questions daily from 6 am to midnight (EST). The toll free number is (866) 217-9197. When calling please have your application serial or patent number, the type of document you are having an image problem with, the number of pages and the specific nature of the problem. The Patent Electronic Business Center will notify applicants of the resolution of the problem within 5-7 business days. Applicants can also check PAIR to confirm that the problem has been corrected. The USPTO's Patent Electronic Business Center is a complete service center supporting all patent business on the Internet. The USPTO's PAIR system provides Internet-based access to patent application status and history information. It also enables applicants to view the scanned images of their own application file folder(s) as well as general patent information available to the public.

For all other customer support, please call the USPTO Call Center (UCC) at 800-786-9199.

Carla Myers
September 28, 2004


CARLA J. MYERS
PRIMARY EXAMINER